CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

ORDER NO. 89-092
NPDES NO. CA0029530

WASTE DISCHARGE REQUIREMENTS FOR:

FORD MOTOR COMPANY
1100 South Main Street Facility
Milpitas, Santa Clara County

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. The property of interest is the location of the former Ford Motor Company manufacturing plant which operated from 1953 to 1983. The property is currently vacant except for two tenants renting space on the north end of the site.

2. The discharger, Ford Motor Company, by application dated February 24, 1989, applied for issuance of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System(NPDES).

3. Ford has been investigating the contamination of the shallow ground water from organic chemicals on their facility since 1982. A total of 44 monitoring wells have been installed in the upper and lower aquifers on the site. The upper aquifer is defined as the permeable zone between 5 to 25 feet below land surface and the lower aquifer as being between 23 to 52 feet deep.

4. There are two locations considered to be sources of ground water contamination 1) the former underground storage tank area and 2) the former executive gas tank area. In the first area, underground piping which reportedly conveyed virgin paint thinner from the underground storage tanks to the plant, was found to be leaking and was repaired in the 1970s. Monitoring wells placed in the area found contaminants such as 1,2-DCE, vinyl chloride, benzene, toluene, xylenes, naphthalene, and aliphatic alcohols. All tanks and piping were removed in 1984. In the second area, the gasoline tank was removed in June 1984 and 111 cubic yards of contaminated soil was also excavated from that location.

5. The discharger has constructed a ground water extraction trench across the northern half of the property. The gravel-filled trench ranges from 25 to 28 feet in depth with five extraction and six monitoring wells located along it. The extraction wells will withdraw ground water collected in the trench and pump it into an onsite treatment facility.

6. The treatment of the ground water will consist of an air stripping tower and two activated carbon filters. The effluent will be discharged at an average rate of 80 gallons per minute into the Ford Creek storm drain which is tributary to Penetencia Creek, Coyote Creek, and South San Francisco Bay.

7. The Regional Board adopted a revised Water Quality Control Plan for the San

Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives and discharge prohibitions for Ford, Penitencia and Coyote Creeks, and South San Francisco Bay.

8. The existing and potential beneficial uses for Coyote and Penitencia Creek, South San Francisco Bay, and contiguous waters are as follows:

   a. Contact and non-contact water recreation
   b. Wildlife habitat
   c. Brackish and salt water marshes
   d. Fish migration and spawning
   e. Commercial and Sport fishing
   f. Preservation of rare and endangered species
   g. Estuarine habitat

9. The existing and potential beneficial uses of the ground waters in the Santa Clara Valley groundwater basin are:

   a. Municipal and Domestic supply
   b. Industrial supply
   c. Industrial service supply
   d. Agricultural supply

10. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses" (a)"at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any nontidal water, dead-end slough, similar confined water, or any immediate tributary thereof" and (b) "to Alameda Creek (watershed) when no natural flow occurs."

11. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 10 above when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge.

12. Exceptions to the prohibitions referred to in Finding 11, and which apply to the discharger, are warranted because the discharge is an integral part of a program to clean up polluted soil and groundwater and thereby produce an environmental benefit, and because receiving water concentrations are expected to be below levels that would effect beneficial uses. Should studies indicate chronic effects, not currently anticipated, the Board will review the requirements of this Order based upon Receiving Water Limitations B.1.e.

13. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin". The discharger's ground water extraction and treatment system and associated operation, maintenance, and monitoring plan constitutes an acceptable control program for minimizing the discharge of toxicants to waters of the State.

14. Effluent limitations of this Order are based on the Basin Plan, State plans and policies, U.S. Environmental Protection Agency guidance, and best engineering and geologic judgement as to best available technology economically achievable.

15. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

16. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

17. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharge, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. EFFLUENT LIMITATIONS

1. The waste at the point of discharge to the surface waterways shall not contain constituents in excess of the following:

DISCHARGE LIMITS

Constituent	Instantaneous Maximum (ug/l)
VOCs	
1,2-Dichloroethane	0.5
Tetrachloroethylene	5.0
Total VOCs[1]	5.0
Miscellaneous Organics	
Vinyl Chloride	0.5
Chloroform	1.6
Aromatics	
Benzene	5.0
Ethyl Benzene	5.0
Toluene	0.5
Xylenes	5.0
Total Petroleum Hydrocarbons[2]	50.0
Phthalate	50.0
2,4 Dimethylphenol	400
Polynuclear Aromatic Hydrocarbons[3]	15.0

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[1] This should include all VOCS (1,2 DCA, PCE)

[2] Sum of priority pollutants measured by EPA method 602

[3] This should include all PAHs (Napthalene & Acenaphthene)

2. Toxicity - The survival of three-spine stickleback and either fathead minnow or rainbow trout test fishes in parallel 96-hour bioassays of the effluent discharge and shall be a median of 90% survival and a 90 percentile value of not less than 70% survival.

B. Receiving Water Limitations

1. The discharge of wastes shall not cause the following conditions to exist in waters of the State at any place:

   a) floating, suspended, or deposited macroscopic particulate matter or foam;

   b) bottom deposits or aquatic growths;

   c) alteration of temperature or apparent color beyond present natural background levels;

   d) visible floating, suspended, or deposited oil or other products of petroleum origin;

   e) toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

   a) pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.

   b) Un-ionized Ammonia: 0.025 mg/l annual mean; 0.4 mg/l maximum at any time.

   c) Dissolved Oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation.

3. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Federal Water Pollution Control Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

C. PROVISIONS

1. The discharger shall comply with all sections of this order immediately upon starting any discharge.

2. The discharger shall comply with the Self-Monitoring Program as adopted by the Board and as may be amended by the Executive Officer. As new ground water extraction and treatment systems are completed, the schedule of monitoring specified in Part B, Table 1, of the Self-Monitoring Program will be reviewed.

3. The discharger shall also notify the Regional Board if the self-monitoring program results indicate, or if a discharge or any activity has occurred or will occur which would result in the discharge, on a frequent or routine basis, of any toxic pollutant which is not limited by this Order.

4. The discharger shall monitor for heavy metals in its effluent biweekly for the first six months to assess if such constituents would exist in the discharge on a frequent or routine basis and therefore should be limited by this Order.

5. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated January 1987, except items A.10, B.2, B.3, C.8, and C.11.

6. This Order expires June 21, 1994. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

7. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 21, 1989.

Steven R. Ritchie
Executive Officer

Attachments:
Figure One, Site Location Map
Standard Provisions & Reporting Requirements, December 1986
Self-Monitoring Program

TABLE 1^A

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS FOR FIRST 6 MOS.

Sampling Station	I-1				E-1								
Type OF SAMPLE	G				G								
Flow Rate (mgd)	D				D								
BOD, 5-day, 20°C, or COD (mg/l & kg/day)													
Chlorine Residual & Dosage (mg/l & kg/day)													
Settleable Matter (ml/l-hr. & cu. ft./day)													
Total Suspended Matter (mg/l & kg/day)					Q								
Oil and Grease (mg/l & kg/day)													
Coliform (Total or Fecal) (MPN/100 ml) per req't													
Fish Tox'y 96-hr. % Surv'l in undiluted waste					Y								
Ammonia Nitrogen (mg/l & kg/day)													
Nitrate Nitrogen (mg/l & kg/day)													
Nitrite Nitrogen (mg/l & kg/day)													
Total Organic Nitrogen (mg/l & kg/day)													
Total Phosphate (mg/l & kg/day)													
Turbidity (Jackson Turbidity Units)													
(units)	M				M								
Dissolved Oxygen (mg/l and % Saturation)	M				M								
Temperature (°C)	M				M								
Apparent Color (color units)													
Secchi Disc (inches)													
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)													
Arsenic (mg/l & kg/day)	BW				BW								
Cadmium (mg/l & kg/day)	BW				BW								
Chromium, Total (mg/l & kg/day)	BW				BW								
Copper (mg/l & kg/day)	BW				BW								
Cyanide (mg/l & kg/day)	BW				BW								
Silver (mg/l & kg/day)	BW				BW								
Lead (mg/l & kg/day)	BW				BW								

TABLE 1B

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS AFTER FIRST 6 MOS.

Sampling Station	I-1				E-1								
TYPE OF SAMPLE	G				G								
Flow Rate (mgd)	D				D								
BOD, 5-day, 20°C, or COD (mg/l & kg/day)													
Chlorine Residual & Dosage (mg/l & kg/day)													
Settleable Matter (ml/l-hr. & cu. ft./day)													
Total Suspended Matter (mg/l & kg/day)					Q								
Oil and Grease (mg/l & kg/day)													
Coliform (Total or Fecal) (MPN/100 ml) per req't													
Fish Tox'y 96-hr. % Surv'l in undiluted waste					Y								
Ammonia Nitrogen (mg/l & kg/day)													
Nitrate Nitrogen (mg/l & kg/day)													
Nitrite Nitrogen (mg/l & kg/day)													
Total Organic Nitrogen (mg/l & kg/day)													
Total Phosphate (mg/l & kg/day)													
Turbidity (Jackson Turbidity Units)													
pH (units)	M				M								
Dissolved Oxygen (mg/l and % Saturation)	M				M								
Temperature (°C)	M				M								
Apparent Color (color units)													
Secchi Disc (inches)													
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)													
Arsenic (mg/l & kg/day)					Y								
Cadmium (mg/l & kg/day)					Y								
Chromium, Total (mg/l & kg/day)					Y								
Copper (mg/l & kg/day)					Y								
Cyanide (mg/l & kg/day)					Y								
Silver (mg/l & kg/day)					Y								
Lead (mg/l & kg/day)					Y								

Figure One - Site Location Map

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

FORD MOTOR COMPANY

MILPITAS, SANTA CLARA COUNTY

NPDES NO. CA0029530

ORDER NO. 89-092

CONSISTS OF

PART A, dated December 1986 and modified January 1987, including appendices A through E

PART B, Adopted: June 21, 1989

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

Station	Description
I-1	At a point in the extraction system immediately prior to discharge into the treatment unit.

B. EFFLUENT

Station	Description
E-1	At a point in the discharge line prior to discharge into the Ford Creek storm drain.

II. SCHEDULE OF SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given in Table I.

III. MISCELLANEOUS REPORTING

If any chemical additives are proposed to be used in the treatment of extracted ground water, it shall be reported 30 days prior to their use.

IV. MODIFICATION TO PART A

A. Deletions:

Sections D.1.a., D.2.a., D.2.c., D.2.f., D.2.g., D.2.h., D.3., D.5., E.3., and E.4.

B. Modifications

D.2.a Samples of effluent shall be collected at times coincident with influent sampling unless otherwise stipulated. The Regional Board or Executive Officer may approve an alternative sampling plan if it is demonstrated that expected operating conditions warrant a deviation from the standard sampling plan.

D.2.d If two consecutive samples of any one constituent or parameter monitored on a weekly or monthly basis in a 30-day period exceed the effluent limit or are otherwise out of compliance, or if the required sampling frequency is once per month or less and thte sample or parameter exceeds the limit or is otherwise out of compliance, the discharger shall implement procedures acceptable to or approved by the Board Executive Officer, on a case by case basis.

D.2.e If any instantaneous maximum limit is exceeded, within 24 hours of receiving the

analytical results, a confirmation sample should be taken and results known within 24 hours. If the limit violation is exceeded in the second dample, the discharge shall be terminated until the cause of the violation is found and corrected.

G.4. Written reports under G.4 shall be filed quarterly.

G.4.b The report format shall be prepared in a format acceptable to the executive officer of the Regional Board.

G.4.e The report format shall be prepared in a format acceptable to the executive officer. NPDES Discharge Monitoring Report, EPA Form 3320-1, is provided as guidance.

G.4.e.1 Influent and effluent data summary reports shall be submitted only to the Regional Board Executive Officer, not to EPA.

G.5 By the 15th of January, April, July, and October, the discharger shall submit a report to the Regional Board covering the activities and data from the previous calendar quarter.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 89-092.
2. Was adopted by the Board on June 21, 1989.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer or Regional Board.

STEVEN R. RITCHIE
EXECUTIVE OFFICER

Attachment: Table I